

Quota Policy on Disk Space and Files

Category: Archiving Data

DRAFT

This article is being reviewed for completeness and technical accuracy.

Some NAS filesystems enforce quotas. Two kinds of quotas are supported: limits on the total disk space occupied by the user's files, and limits on how many files (represented by *inodes*) the user can store, irrespective of size. For quota purposes, directories count as files.

Further, there are two different limits: hard limits and soft limits. Hard limits cannot be exceeded, ever. Any attempt to use more than your hard limit will be refused with an error. Soft limits, on the other hand, can be exceeded temporarily. You can stay over your soft limit for a certain period of time (the grace period). If you remain over your soft limit for more than the grace period, the soft limit is enforced as a hard limit.

You will not be able to add or extend files until you get back under the soft limit. Usually, this means deleting unneeded files or copying important files elsewhere (perhaps the Lou archival storage system) and then removing them locally.

When you exceed your soft limit you will begin getting daily emails reminding you how long until the grace period expires. These are intended to be informative and not a demand to immediately remove files.

The following table summarizes the default space and inode quota limits enforced on Columbia, Pleiades and Lou.

Default Quotas on Disk Space and Files			
	Columbia	Pleiades	Lou
\$HOME	NFS	NFS	XFS
Space: soft	4 GB	8 GB	none
Space: hard	5 GB	10 GB	none
Inode: soft	none	none	250,000
Inode: hard	none	none	300,000
	CXFS		
/nobackup	/nobackup1[a-g] /nobackup2[a-i]	Lustre /nobackupp[10-70]	N/A

Space: soft	200 GB	200 GB	N/A
Space: hard	400 GB	400 GB	N/A
Inode: soft	25,000	75,000	N/A
Inode: hard	50,000	100,000	N/A

Policy on Disk Space Quotas of home and /nobackup File Systems for Pleiades/Columbia

- If you exceed the soft quota, an email will be sent to inform you of your current disk space and how much of your grace period remains. It is expected that a user will exceed their soft limit as needed, however after 14 days, users who are still over their soft limit will have their batch queue access to Columbia/Pleiades disabled.
- If an account has been disabled for more than 14 days, then its Columbia/Pleiades data will be moved to the archive host, Lou, and kept there for 6 months before removal, unless the project lead requests to have the data moved to another account.
- If an account no longer has batch access to a system, then all data from that system should be moved off within 7 days (or sooner if the other projects need the space).
- If an account needs larger quota limits, please send an email justification to support@nas.nasa.gov. This will be reviewed by the HECC Deputy Project Manager, Bill Thigpen, for approval.

Policy on Disk File Quotas for Lou

- There is no quota for file space on Lou1 or Lou2 because the data is written to tape. There is a quota on the number of files you can have. Currently there is a soft limit of 250,000 files and a hard limit of 300,000 files.
- There is a 14 day grace period if soft limit is exceeded. An email will be sent to inform you of your current disk space and how much of your grace period remains. It is expected that a user will exceed their soft limit as needed, however after 14 days, users who are still over their soft limit will be unable to archive files until they have reduced their use to below the soft limit.
- If an account needs larger quota limits, please send an email justification to support@nas.nasa.gov. This will be reviewed by the HECC Deputy Project Manager, Bill Thigpen, for approval.
- The maximum size of a file moved to Lou should not exceed 30% of the size of your home filesystem on Lou. If you need to move files larger than this, please contact the NAS Help Desk (support@nas.nasa.gov) for assistance.

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<http://www.nas.nasa.gov/hecc/support/kb/entry/156/?ajax=1>